LISTING OF CLAIMS

1.   (previously presented) A computerized method having a process flow operating over a computer network comprising a plurality of interconnected computers and a plurality of resources, each computer including a processor, memory and input/output devices, each resource operatively coupled to at least one of the computers and executing at least one of the activities in the process flow, the method comprising the steps of:

automatically assembling an electronic authorization of a transaction comprising an electronic representation of the transaction and a plurality of verifiable anonymous role certificates to be completed comprising at least one verifiable anonymous role certificate to be completed for each of a plurality of roles for which approval is required to obtain authorization of the transaction;

distributing said electronic authorization for completion of said plurality of role certificates;

extracting completed verifiable role certificates from said electronic authorization; and

verifying whether completed role certificates, associated with the authorization, are themselves authentic.

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2.   (original) The method of claim 1 wherein roles associated with the role certificates are hashed and compared with hashed roles in a database of hashed roles.

3.   (original) The method of claim 1 wherein the authorization is further insured by verifying that role certificates associated with the authorization correspond with roles in a permission set of roles of an authorization structure, the role certificates of which being required to authorize the transaction.

4.   (original) The method of claim 3 wherein the authorization structure is an authorization tree.

5.   (original) The method of claim 3 wherein the roles are extracted from the role certificates associated with the transaction, each extracted role being hashed and these hashed roles being concatenated and hashed again, and then concatenated with hashes of other permission sets, if any, according to the authorization structure and hashed once again, resulting in a computed hash value which may be compared to that which was signed by the Transaction Administrator, a match indicating that the transaction is authorized.

6.   (previously presented) A distributed workflow management system, the management system operating over a computer network comprising a plurality of interconnected computers and a plurality of resources, each computer

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including a processor, memory and input/output devices, each resource operatively coupled to at least one of the computers and executing at least one of the activities in a process flow, the system comprising:

code for automatically assembling and distributing an electronic authorization of a transaction comprising an electronic representation of the transaction and a plurality of verifiable anonymous role certificates to be completed comprising at least one verifiable anonymous role certificate to be completed for each of a plurality of roles for which approval is required to be completed to obtain authorization of the transaction;

code for extracting completed verifiable role certificates from said electronic authorization; and

code for verifying whether completed role certificates, associated with the authorization, are themselves authentic

7.   (original) The system of claim 6 wherein roles associated with the role certificates are hashed and compared with hashed roles in a database of hashed roles.

8.   (original) The system of claim 6 wherein the authorization is further insured by verifying that role certificates associated with the authorization correspond with roles in a permission set of roles of an authorization structure, the role certificates of which being required to authorize the transaction.

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9.   (original) The system of claim 8 wherein the
authorization structure is an authorization tree.

10.   (original) The system of claim 8 wherein the roles are
extracted from the role certificates associated with the
transaction, each extracted role being hashed and these
hashed roles being concatenated and hashed again, and then
concatenated with hashes of other permission sets, if any,
according to the authorization structure and hashed once
again, resulting in a computed hash value which may be
compared to that which was signed by the Transaction
Administrator, a match indicating that the transaction is
authorized.

11.   (previously presented) A computerized method having a
process flow operating over a computer network comprising a
plurality of interconnected computers and a plurality of
resources, each computer including a processor, memory and
input/output devices, each resource operatively coupled to
at least one of the computers and executing at least one of
the activities in the process flow, the method comprising
the steps of:

     obtaining an electronic authorization of a transaction
comprising an electronic representation of the transaction
and a plurality of verifiable anonymous role certificates to
be completed comprising at least one verifiable anonymous
role certificate to be completed for each of a plurality of

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roles for which approval is required to be completed to obtain authorization of the transaction;

extracting completed verifiable role certificates from said electronic authorization; and

verifying whether completed role certificates, associated with the authorization, are themselves authentic.

12. (original) The method of claim 11 wherein roles associated with the role certificates are hashed and compared with hashed roles on a database of hashed roles.

13. (original) The method of claim 11 wherein the authorization is further insured by verifying that role certificates associated with the authorization correspond with roles in a permission set of roles of an authorization structure, the role certificates of which being required to authorize the transaction.

14. (original) The method of claim 13 wherein the authorization structure is an authorization tree.

15. (original) The method of claim 13 wherein the roles are extracted from the role certificates associated with the transaction, each extracted role being hashed and these hashed roles being concatenated and hashed again, and then concatenated with hashes of other permission sets, if any, according to the authorization structure and hashed once again, resulting in a computed hash value which may be

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compared to that which was signed by the Transaction Administrator, a match indicating that the transaction is authorized.

16. (previously presented) A distributed workflow management system, the management system operating over a computer network comprising a plurality of interconnected computers and a plurality of resources, each computer including a processor, memory and input/output devices, each resource operatively coupled to at least one of the computers and executing at least one of the activities in a process flow, the system comprising:

code for obtaining an electronic authorization of a transaction comprising an electronic representation of the transaction and a plurality of verifiable anonymous role certificates to be completed comprising at least one verifiable anonymous role certificate to be completed for each of a plurality of roles for which approval is required to be completed to obtain authorization of the transaction;

code for extracting completed verifiable role certificates from said electronic authorization; and

code for verifying whether completed role certificates, associated with the authorization, are themselves authentic.

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17. (original) The system of claim 16 wherein roles associated with the role certificates are hashed and compared with hashed roles in a database of hashed roles.

18. (original) The system of claim 16 wherein the authorization is further insured by verifying that role certificates associated with the authorization correspond with roles in a permission set of roles of an authorization structure, the role certificates of which being required to authorize the transaction.

19. (original) The system of claim 18 wherein the authorization structure is an authorization tree.

20. (original) The system of claim 18, wherein the roles are extracted from the role certificates associated with the transaction, each extracted role being hashed and these hashed roles being concatenated and hashed again, and then concatenated with hashes of other permission sets, if any, according to the authorization structure and hashed once again, resulting in a computed hash value which may be compared to that which was signed by the Transaction Administrator, a match indicating that the transaction is authorized.

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21-26. (canceled)

27. (previously presented) A message exchange mechanism
operating over a computer network comprising a plurality of
interconnected computers and a plurality of resources, each
computer including a processor, memory and input/output
devices, each resource operatively coupled to at least one
of the computers and being able to read and write messages
to be sent to another resource over the computer network,
the mechanism performing the steps of:

    assembling an electronic authorization of a
transaction comprising an electronic representation of the
transaction and a plurality of verifiable anonymous role
certificates to be completed comprising at least one
anonymous verifiable role certificate to be completed for
each role for which approval is required to be completed to
obtain authorization of the transaction;

    extracting completed verifiable role certificates from
said electronic authorization; and

    verifying   whether   completed   role   certificates,
associated with the authorization, are themselves authentic.

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28.   (original) The mechanism of claim 27 wherein roles associated with the role certificates are hashed and compared with hashed roles in a database of hashed roles.

29.   (original) The mechanism of claim 27 wherein the authorization is further insured by verifying that role certificates associated with the authorization correspond with roles in a permission set of roles of an authorization structure, the role certificates of which being required to authorize the transaction.

30.   (original) The mechanism of claim 29 wherein the authorization structure is an authorization tree.

31.   (original) The mechanism of claim 29 wherein the roles are extracted from the role certificates associated with the transaction, each extracted role being hashed and these hashed roles being concatenated and hashed again, and then concatenated with hashes of other permission sets, if any, according to the authorization structure and hashed once again, resulting in a computed hash value which may be compared to that which was signed by the Transaction Administrator, a match indicating that the transaction is authorized.

32.   (previously presented) A message exchange mechanism operating over a computer network comprising a plurality of interconnected computers and a plurality of resources, each computer including a processor, memory and input/output devices, each resource operatively coupled to at least one

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of the computers and executing at least one of the activities in a process flow, the system comprising:

code for extracting role certificates of at least one type from a message, said role certificates comprising at least one verifiable anonymous role certificate to be completed for each role for which approval is required to be completed to obtain authorization of the transaction; and

code for verifying if said completed role certificates, associated with the authorization, are themselves authentic.

33.   (original) The mechanism of claim 32 wherein roles associated with the role certificates are hashed and compared with hashed roles in a database of hashed roles.

34.   (original) The mechanism of claim 32 wherein the authorization is further insured by verifying that role certificates associated with the authorization correspond with roles in a permission set of roles of an authorization structure, the role certificates of which being required to authorize the transaction.

35.   (original) The mechanism of claim 34 wherein the authorization structure is an authorization tree.

36.   (original) The mechanism of claim 34, wherein the roles are extracted from the role certificates associated

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with the transaction, each extracted role being hashed and these hashed roles being concatenated and hashed again, and then concatenated with hashes of other permission sets, if any, according to the authorization structure and hashed once again, resulting in a computed hash value which may be compared to that which was signed by the Transaction Administrator, a match indicating that the transaction is authorized.

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